ABSTRACT

A method for producing viral gene delivery vehicles which can be transferred to pre-selected cell types by using targeting conjugates. The gene delivery vehicles comprise: 1) the gene of interest; and 2) a viral capsid or envelope carrying a member of a specific binding pair, the counterpart of which is not directly associated with the surface of the target cell. These vehicles can be rendered unable to bind to their natural cell receptor. The targeting conjugates include the counterpart member of the specific binding pair, linked to a targeting moiety which is a cell-type specific ligand (or fragments thereof). The number of the specific binding pair present on the viral vehicles can be, for example, an immunoglobulin binding moiety (*e.g.*, capable of binding to a Fc fragment, protein A, protein G, FcR or an anti-Ig antibody), or biotin, avidin or streptavidin. The virus' outer membrane or capsid may contain a substance which mediates entrance of the gene delivery vehicle into the target cell. Due to the specificity of the ligand, the binding pair's high affinity, and the gene delivery vehicle's inability to be targeted when used alone, the universality of the method for gene delivery, together with its high cell type selectively can be achieved by using various targeting conjugates.